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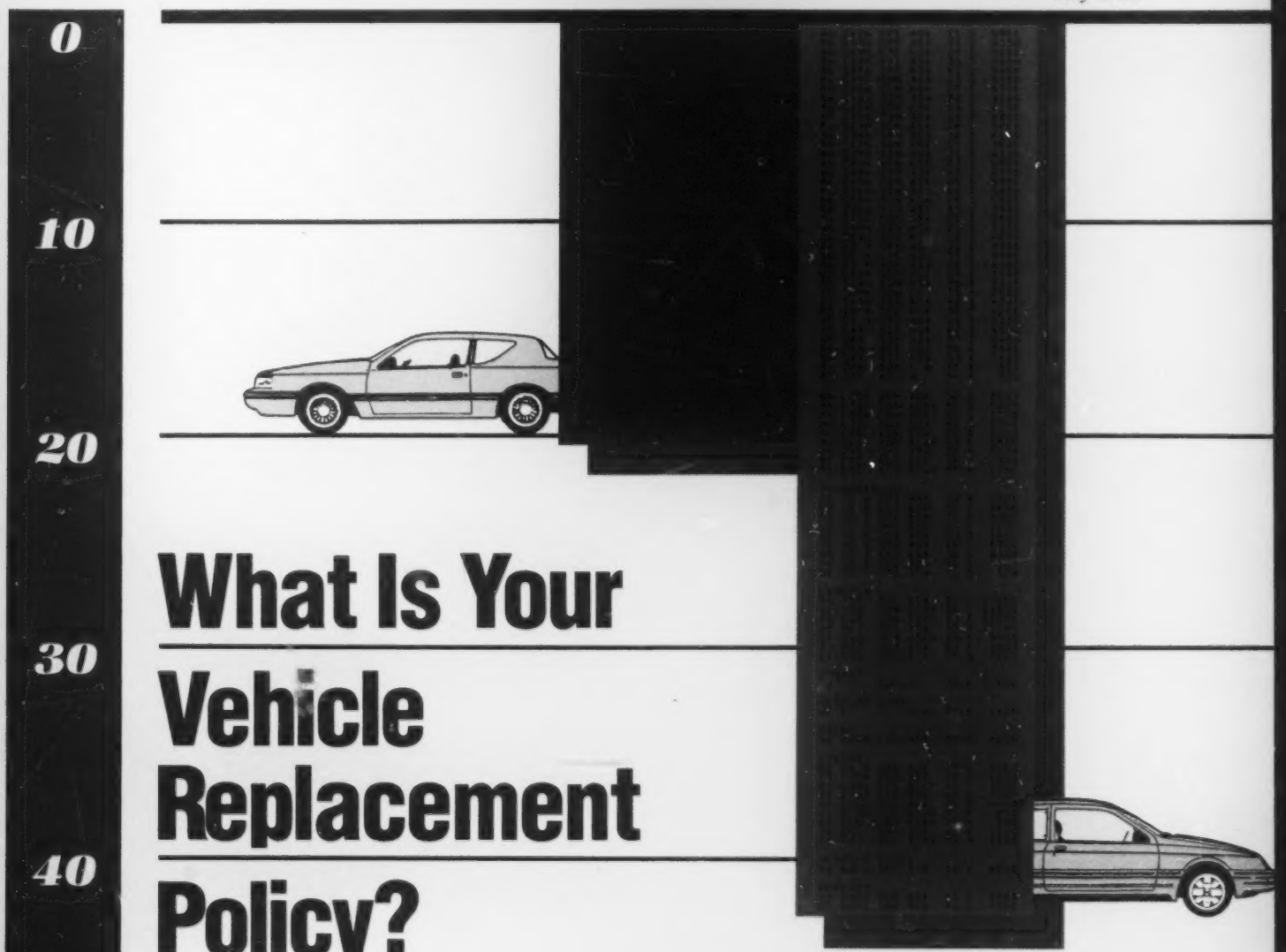
NAFA

Fleet Executive

The Magazine for Vehicle Management
May 1988



What Is Your Vehicle Replacement Policy?

ALSO INSIDE

Special 8-page Insert:
NAFA's 1987 Annual Report

Official Monthly Publication of
The National Association of Fleet Administrators, Inc.
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NAFA Fleet Executive

The Magazine for Vehicle Management
May 1988

Cover design by: Cindi Samol

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NAFA's Annual Used Vehicle Marketing Survey Results

Used Vehicle Marketing Survey Response by Industry Category

U.S. Commercial Fleets	Fleets Responding		
Industrial Manufacturing	32		
Insurance	30		
Chemical & Petroleum	18		
Drugs & Cosmetics	17		
Food & Beverage	15		
Service Organizations	15		
Banking/Financial	14		
Consumer Manufacturing	14		
Communications	12		
Electronics	5		
Other	13		
Total U.S. Commercial Fleets		185	
U.S. Government Fleets	54		
U.S. Public Utility Fleets	29	83	
Total U.S. Fleets			268
* * *			
Canadian Fleets			
Drugs & Cosmetics	10		
Industrial Manufacturing	9		
Food & Beverage	6		
Consumer Manufacturing	4		
Government	4		
Chemical & Petroleum	3		
Communications	3		
Insurance	3		
Electronics	2		
Public Utility	2		
Service Organizations	2		
Other	1		
Total Canada Fleets			49
TOTAL SURVEY RESPONSE			317

Following is a brief interpretation of the results of NAFA's 1988 Used Vehicle Marketing Survey. The interpretation is given in three sections: U.S. Commercial Fleets; U.S. Government and Public Utility Fleets; and Canadian Fleets.

NAFA's 1988 Used Vehicle Marketing Survey received responses from 185 United States commercial fleets responsible for 183,956 vehicles; 88,308 vehicles are company-owned and 95,648 are leased. (All told, survey respondents control 245,506 company-owned vehicles and 109,898 leased vehicles, for a total of 355,404.)

Continuing the trend begun in 1986, U.S. commercial fleets last year kept their vehicles in service longer in terms of both months and mileage, according to survey results. In 1986, these fleets disposed of vehicles after an average of 30.2 months or 61,029 miles; in 1987 the numbers were 31 months or 64,356 miles; this year results show fleets kept their vehicles an average of 32 months or 64,540 miles.

It is interesting to note, however, that when specifically asked if they plan to change the length of time vehicles are kept in service, nearly three-quarters of these fleets said no. And, even more interestingly, of the 68 respondents planning a change, nearly half will *decrease* both the months and mileage for vehicles.

This latter point is reinforced by the fact that when asked in 1987 what their replacement policies would be for that year and for 1988, respondents averaged 40 months/65,808 miles and 45 months/64,740 miles, respectively. This year, when asked

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'88 Used Marketing Survey

(Continued from page 6)

that same question, respondents answered an average of 36 months/59,318 miles and 36 months/63,109 miles. (Respondents further claim their replacement policies for 1989 and 1990 to be 36 months/59,121 miles and 37 months/59,251 miles, respectively.)

These results seem to be saying U.S. commercial fleets are driving more miles in less months than previous and are, therefore, disposing of their vehicles earlier in their life spans.

When marketing their used vehicles, U.S. commercial fleets selected auto auctions as their favorite means of disposal, with sales to employees second on their list, and wholesalers third. This has been true for the past three years.

For the second straight year, fleet managers claim they most often use *Automotive Market Report* to determine prices of vehicles sold to employees.

Last year, U.S. commercial fleets disposed of more than 21,000 pre-1983 model year vehicles. Second was the sale of 20,156 1986 model year vehicles; third was the sale of 16,119 1983 model year vehicles. Less than 15 percent of these fleets reconditioned their vehicles before disposing of them.

U.S. Government and Public Utility Fleets

Eighty-three U.S. government and public utility fleets, responsible for 134,039 vehicles (128,197 company-owned; 5,842 leased), responded to the survey.

Reversing last year's trend, these fleets increased the number of months they kept their vehicles before disposing of them. In 1986, government fleets kept their vehicles an average of nearly 64 months; in 1987, the number declined to 55 months; this year, it is back up to an average of 60 months. Public utility fleets were at 66 months in 1986; 61 months in 1987, and 75 months in this year's survey.

In terms of the number of miles on an average vehicle in these fleets, government fleets continue their downward trend started in 1986, while public utility fleets show an increase in total average mileage for the third consecutive year.

This year, government fleets said the average vehicle disposed of had 85,127 miles; last year the number was 87,231; in 1986, the number was 91,679. And, it appears this trend will continue through next year. Nearly 60 percent of government fleets planning a change in their replacement policies said they will *decrease* both the months and miles vehicles are kept in service.

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U.S. Fleets	Average Age of Vehicles Sold (1987) Months	Average Mileage of Vehicles Sold 1987	Written Replacement Policies Months/Miles			
			1987	1988	1989	1990
Drugs & Cosmetics	28	52,887	33/56,423	35/54,500	34/54,850	34/54,850
Food & Beverage	28	57,254	36/56,923	37/57,400	37/56,364	37/56,364
Insurance	30	53,484	33/55,346	32/54,673	33/54,150	33/54,150
Chemical & Petroleum	38	79,515	43/67,802	44/69,631	46/69,733	46/66,759
Industrial Manufacturing	30	63,290	35/57,983	35/58,135	36/58,075	36/57,974
Consumer Manufacturing	28	58,138	33/56,538	33/58,077	32/57,222	32/57,222
Banking/Financial	40	59,950	38/56,700	37/56,200	37/55,778	37/58,375
Communications	36	67,392	45/64,444	48/61,500	50/62,222	50/64,375
Service Organizations	31	73,144	35/63,438	37/68,511	30/62,500	30/62,500
Electronics	24	40,512	24/56,667	28/58,333	36/60,000	36/60,000
Other	34	61,486	36/66,667	37/66,667	38/70,714	39/72,143
(Avg. Total U.S. Commercial Fleets)	**(32)**	**(64,540)**	**(36/59,318)**	**(36/63,109)**	**(36/59,121)**	**(37/59,251)**
Government	60	85,127	64/80,643	64/80,258	64/80,903	64/80,433
Public Utility	75	86,286	63/75,658	61/74,615	61/74,615	61/74,615

'88 Used Marketing Survey

(Continued from page 8)

When asked their specific replacement policies for upcoming years, however, government fleet managers said they will keep vehicles an average of 64 months — which is higher than this year's average — and 80,668 miles — which is less than this year's average.

The opposite is true for public utility fleets. In 1986, these fleets drove an average of 78,550 miles on their vehicles before disposing of them. In 1987 the number was 81,362 miles; this year it is 86,286 miles. In terms of the number of months vehicles are kept, these fleets averaged 66 in 1986, 61 in 1987, and 75 this year. Only ten percent of these fleets said they plan a change in their replacement policies for next year. However, all who are planning a change said they will keep vehicles less months and less miles.

Of all the vehicles sold by responding U.S. government and public utility fleets, a vast majority were older than 1983 models. As is usually the case, both these fleet categories dispose of their vehicles primarily through auctions. Nearly 30 percent of government fleets and 14 percent of public utility fleets reconditioned vehicles before disposing of them.

Canadian Fleets

Fleet managers from 49 Canadian firms, responsible for 37,409 vehicles (29,001 company-owned; 8,408 leased) responded to NAFA's 1988 Used Vehicle Marketing Survey.

Canadian fleets remain steady in the length of time they keep their vehicles, coming in this year at an average of 33 months. Last year these fleets averaged 32 months; the year before, 32.2 months.

Also, average kilometers driven before vehicles were sold declined from last year's total, but remained higher than the 1986 average. This year, Canadian fleets said they drive vehicles an average of 91,612 kilometers before disposing of them; last year the average was 94,478 kilometers; in 1986, 78,460 kilometers.

Just above 14 percent of these fleets said they plan a change in their replacement policies for next year. Nearly 43 percent of those changing policies said they will decrease both the months and kilometers their vehicles are kept in service.

For Canadian fleets, the most popular methods for determining vehicle prices when selling fleet vehicles to employees were *Black Book* figures (57.1 percent) and computation of their accounting (book) value (38.1 percent).

Surprisingly, of all options listed as means of disposing of fleet vehicles (sell to employees;

U.S. Fleets	% Planning Change in Length Vehicles Kept in Service	Of % Planning Change...	% Planning Increase in Months and Miles Vehicles Kept in Service	% Planning Decrease in Months and Miles Vehicles Kept in Service	% Planning Increase Miles/ Decrease Months or Decrease Miles/ Increase Months
Drugs & Cosmetics	29.4%		0	40.0%	60.0%
Food & Beverage	6.7%		0	100%	0
Insurance	26.7%		75.0%	25.0%	0
Chemical & Petroleum	33.3%		50.0%	50.0%	0
Industrial Manufacturing	28.1%		11.1%	55.6%	33.3%
Consumer Manufacturing	7.1%		0	0	100%
Banking/Financial	28.6%		75.0%	25.0%	0
Communications	16.7%		0	100%	0
Service Organizations	40.0%		50.0%	33.3%	16.7%
Electronics	20.0%		100%	0	0
Other	30.8%		50.0%	50./0%	0
(Avg. Total U.S. Commercial Fleets)	**(25.4%)**		**(40.4%)**	**(42.6%)**	**(17.0%)**
Government	40.7%		38.1%	57.1%	4.8%
Public Utility	10.3%		0	100%	0

auctions; wholesalers; used car dealers; new car dealers; salvaged, and other) Canadian fleets cited "Other" most frequently, with auctions a close second.

Only 8.2 percent of Canadian fleets recondition vehicles before selling them.

For a Canadian's interpretation of that country's Used Vehicle Marketing Survey results, please turn the page.

Pages 16 and 17 feature a comparison of 1987 and 1988 U.S. and Canadian survey results.

Since May 9, 1985, fleets and other sellers of used cars have had to comply with the Federal Trade Commission's "Used Car Rule".*

Under the rule, sellers must:

- Prepare and display a "Buyers Guide" on each used vehicle
- Include a special disclosure in the sales contract
- Identify final warranty items in the sales contract
- Provide purchaser with a copy of the Buyers Guide which includes the final warranty items.

The FTC rule applies to all used car sales by fleets, except where vehicles are sold to employees or through auctions open *only* to dealers. Also, if vehicles are sold through auctions, fleets must comply with the rule if the auction is open to, and the sale is advertised to, consumers.

In the three years since the rule's inception, FTC has stood by its requirement, saying it was good for the consumer. Now, however, they say while there is a general understanding of what is required by the rule, there is a "steady stream" of questions from fleets, dealers and consumers on what they have to do to comply with the rule. (FTC also reports compliance with the rule is "mixed" and several enforcement actions against dealers are underway, with penalties forthcoming.)

What are your experiences with the "Used Car Rule"?

NAFA is very interested in hearing from our Members and Affiliates on how they have coped with the rule and the obstacles they have run into. If you have information or comments, please send them to NAFA Headquarters.

*Individuals or companies selling, or offering to sell, fewer than six cars in a twelve-month period are exempt from the rule.

What source is used to determine prices of vehicles sold to employees?

U.S. Fleets	NADA	AMR	Independent Wholesaler	Black Book	Blue Book	Red Book	Retail Market	Your Book Value	Leasing Company Adjustment	Other		Recondition Vehicles Before Selling Them
Drugs & Cosmetics	18.8%	37.5%	0	6.3%	18.8%	6.3%	0	18.8%	37.5%	6.3%		17.6%
Food & Beverage	14.3%	85.7%	7.1%	7.1%	14.3%	0	0	28.6%	7.1%	7.1%		20.0%
Insurance	37.0%	51.9%	3.7%	14.8%	7.4%	3.7%	7.4%	14.8%	11.1%	7.4%		0
Chemical & Petroleum	42.9%	71.4%	7.1%	14.3%	0	0	14.3%	14.3%	14.3%	7.1%		16.7%
Industrial Manufacturing	33.3%	70.0%	3.3%	6.7%	3.3%	0	6.7%	23.3%	16.7%	13.3%		6.3%
Consumer Manufacturing	14.3%	71.4%	14.3%	7.1%	7.1%	0	0	28.6%	14.3%	14.3%		28.6%
Banking/Financial	62.5%	50.0%	25.0%	37.5%	25.0%	0	12.5%	37.5%	12.5%	25.0%		35.7%
Communications	0	37.5%	0	12.5%	25.5%	0	0	0	25.0	0		25.0%
Service Organizations	25.0%	33.3%	0	8.3%	33.3%	0	0	25.0%	33.3%	0		13.3%
Electronics	0	40.0%	20.0%	0	0	0	0	40.0%	20.0%	60.0%		20.0%
Other	50.0%	33.3%	25.0%	16.7%	8.3%	0	0	33.3%	16.7%	16.7%		7.7%
(Avg. Total U.S. Commercial Fleets)	**(29.4%)**	**(56.3%)**	**(7.5%)**	**(11.3%)**	**(11.3%)**	**(1.3%)**	**(4.4%)**	**(22.5%)**	**(18.1%)**	**(11.3%)**		**(14.6%)**
Government	0	0	0	0	50.0%	0	0	0	100%	100%		29.6%
Public Utility	33.3%	16.7%	8.3%	16.7%	16.7%	0	0	33.3%	16.7%	25.0%		13.8%

Note: Respondents could choose all options that applied.

'88 Used Marketing Survey

(Continued from page 13)

A Canadian Point of View

Certain Canadian NAFA Members felt their country's 1988 Used Vehicle Marketing Survey Results did not fully represent the used fleet vehicle market in Canada in some instances.

It was the general consensus that a large government or public utility fleet responded to the survey and distorted the results. (Government and public utility fleets generally keep their vehicles in service longer, and dispose of their vehicles differently, than commercial fleets.)

Canadians said the ratio of company-owned to leased vehicles for responding Canadian fleets was not indicative of their fleet industry. The overwhelming number of company-owned vehicles, they said, points to responses from government or public utility fleets.

Also, the majority of respondents said they dispose of their fleet vehicles through "Other" methods, rather than by selling to employees or through auctions, wholesalers, or new or used car dealers.

This may be because many responding fleets simply return their vehicles to their leasing companies and have nothing further to do with the sale of the vehicle. So, despite the fact leasing companies may sell the cars through some of the options listed in the survey, fleet managers responded "Other" because they themselves do not sell the vehicles.

Most other averages received from Canadian respondents (age of vehicles sold; mileage of vehicles sold; percent planning some change in length of service, etc.) were, however, deemed indicative of the Canadian used fleet vehicle market. In fact, when compared to U.S. results, the numbers are virtually on par with each other.

Canada	
Average Age of Vehicles Sold in 1987	33 months
Average Mileage of Vehicles Sold in 1987	91,612 Km
Written Replacement Policies	Months/Kilometers
1987	36/92,963
1988	36/93,141
1989	36/93,741
1990	36/94,635
Percent Planning Change in Length Vehicles Kept in Service	14.3%
% Planning Increase in Months and Kilometers Vehicles Kept in Service	28.6%
% Planning Decrease in Months and Kilometers Vehicles Kept in Service	42.8%
% Planning Increase Months/Decrease Kilometers or Decrease Months/Increase Kilometers	28.6%
Sources Used to Determine Prices of Vehicles Sold to Employees:	
NADA	0%
AMR	0%
Independent Wholesaler	16.7%
Black Book	57.1%
Blue Book	0%
Red Book	11.9%
Retail Figures	7.1%
Your Book Value	38.1%
Leasing Company Adjusted Price	26.2%
Other	19.0%
Recondition Vehicles Before Selling Them	8.2%
Sources Used To Sell Used Vehicles:	
Auctions	28.8%
Employees	15.6%
Wholesalers	11.8%
New Car Dealers	7.6%
Used Car Dealers	0.7%
Salvaged	0.6%
Other	34.9%

'87-'88 Used Vehicle Marketing

Fleets Responding

	1987	1988	+/-
U.S. Commercial Fleets	280	185	-95
U.S. Government Fleets	50	54	+4
U.S. Public Utility Fleets	27	29	+2
Canadian Fleets	49	49	0
Total Respondents	406	317	-89

Total Vehicles

Company-Owned			
U.S. Commercial Fleets	54,476	88,308	+33,832
U.S. Government Fleets	30,126	88,490	+58,364
U.S. Public Utilities Fleets	13,183	39,707	+26,524
Canadian Fleets	4,478	29,001	+24,523
Total Company-Owned Vehicles	102,263	245,506	+143,243
Leased			
U.S. Commercial Fleets	91,748	95,648	+3,900
U.S. Government Fleets	152	688	+536
U.S. Public Utilities Fleets	1,216	5,154	+3,938
Canadian Fleets	9,560	8,408	-1,152
Total Leased Vehicles	102,676	109,898	+7,222
Total Vehicles			
U.S. Commercial Fleets	146,224	183,956	+37,732
U.S. Government Fleets	30,278	89,178	+58,900
U.S. Public Utilities Fleets	14,399	44,861	+30,462
Canadian Fleets	14,038	37,409	+23,371
Total Vehicles in Fleets	204,939	355,404	+150,465

Number of Model Year Vehicles Sold

U.S. Fleets (Total)			
Older than 1983	NA	21,020	+21,020
1983 Model Year	14,272	16,119	+1,847
1984 Model Year	24,290	9,566	-14,724
1985 Model Year	11,925	5,806	-6,119
1986 Model Year	4,882	20,156	+15,274
1987 Model Year	NA	5,798	+5,798
Canadian Fleets			
Older than 1983	NA	3,121	+3,121
1983 Model Year	863	1,086	+223
1984 Model Year	1,430	579	-851
1985 Model Year	437	598	+161
1986 Model Year	66	1,314	+1,248
1987 Model Year	NA	685	+685

Survey Results Comparison

Average Age of Vehicles Sold

Months			
U.S. Commercial Fleets	31	32	+1
U.S. Government Fleets	55	60	+5
U.S. Public Utilities Fleets	61	75	+14
Canadian Fleets	32	33	+1
Miles			
U.S. Commercial Fleets	64,356	64,540	+184
U.S. Government Fleets	87,231	85,127	-2,104
U.S. Public Utilities Fleets	81,362	86,286	+4,924
Canadian Fleets	94,478km	91,612km	-2,866

Selling Methods
Number of Vehicles Sold in Each Category

U.S. Commercial Fleets	**1987**	**1988**	**+/-**
Employees	15,023	14,499	-1,772
Wholesalers	26,367	10,361	*
Auctions	*	18,439	*
Used car dealers	3,026	2,783	-243
New car dealers	3,250	2,336	-914
Salvaged	3,743	786	**
Other	**	3,643	**
U.S. Government Fleets			
Employees	21	28	+9
Wholesalers	3,291	138	*
Auctions	*	9,225	*
Used car dealers	25	290	+265
New car dealers	80	73	-7
Salvaged	84	6,988	**
Other	**	2,149	**
U.S. Public Utilities Fleets			
Employees	438	172	-266
Wholesalers	1,803	34	*
Auctions	*	4,883	*
Used car dealers	399	1,401	+1,002
New car dealers	26	28	+2
Salvaged	84	14	**
Other	**	200	**
Canadian Fleets			
Employees	1,421	1,155	-266
Wholesalers	1,557	870	*
Auctions	*	2,126	*
Used car dealers	43	54	+9
New car dealers	213	563	+350
Salvaged	196	44	**
Other	**	2,571	**

*Wholesalers and Auctions categories were combined in 1987.
**Salvaged and Other categories were combined in 1987.

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NAFA Fleet Executive

The Magazine for Vehicle Management
September 1988

BASIC REQUIREMENTS FOR A FLEET SAFETY POLICY ... PAGE 4

PLUS!!

COMPLETE TEXT OF THE RECENTLY ANNOUNCED FEDERAL ODOMETER REGULATIONS ... HOW WILL THEY AFFECT YOU? ... PAGE 30

ANNUAL FLEET SAFETY ISSUE

Official Monthly Publication of
The National Association of Fleet Administrators, Inc.
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September 1988

Cover design by Jeff Calvert

FEATURES

4 **Basic Requirements For A Fleet Safety Policy**
Here is a brief outline of the components you will need to keep in mind when devising your own company fleet safety policy.

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Having a fleet safety policy is only half the picture; you'll need to get top management's support and participation in the program. Here's how to get it.

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A brief highlight of the National Safety Council's fleet safety video aimed at getting top management's attention.

20 **Interior, Exterior Components Make Today's Cars Safe Machines**
How have manufacturers designed their latest cars to make them safe? Here's a look at what keeps you alive in an accident.

30–35 **NAFA Exclusive!**
Complete Text of the New Federal Odometer Regulations
Read the details of the recently announced regulations and what you'll have to do to comply with them.

36 **In Canada, Texaco Stress "Drive To Survive"**
Texaco Canada is sponsoring a unique defensive driving session in their country and it's proving quite successful with younger drivers.

42 **Safety Agencies Provide On-The-Spot Assistance**
Here's a listing of the many specialized national safety agencies ready and willing to help you.

44 **Local Safety Councils Offer Nearby Resources**
You may not know it, but your state has at least one auto safety organization waiting to help you. Here's a list of those agencies and how you can contact them.

48 **How To Get A Car With Airbags**
What cars have, or will have, airbags? We thought you'd like to know.

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Interior, Exterior Components Make Today's Cars Safe Machines

The most important safety feature inside a car is the initiative of its occupants. They must buckle up.

The seatbelt is the most effective protection against occupant injuries and fatalities, yet, according to U.S. Department of Transportation (DOT) estimates, less than 35 percent of all drivers regularly buckle up. Although 32 states and the District of Columbia have belt laws, usage in those areas is "regular" for only about 49 percent of the drivers. In states not having seat-belt laws, only 23 percent of drivers buckle up.

DOT, noting the above figures, has mandated use of passive restraints—automatic seatbelts or air bags.

Automatic seatbelts work two ways: A shoulder strap attached to the highest corner of the door so that every time the door is opened or closed the belt moves into place across the occupant's chest or out of place–away from the occupant; or, a motorized shoulder strap in a track on the inside of the seam of the door and roof which moves automatically each time the door is opened and closed. Nearly 25 percent of all 1988 model year passenger cars protect occupants with front-seat automatic belts; these devices will become more prominent in model years 1989 and 1990 to meet the DOT mandate.

Newer seatbelts automatically lock during quick stops; more modern belts have "automatic tensioning" to carry protection one step further. With this system, a cable is attached to the seatbelt retractors and connected to the car's engine

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Insurance Companies Offering Discounts

Automobile insurance companies have announced discounts in personal injury and medical payment premiums for cars with factory-installed automatic safety belts and/or airbags.

The discounts apply to premiums for medical payments for occupants of the insured automobile or, in states with no-fault insurance, to personal injury protection for the occupants of the insured vehicle.

The following percent discounts are available for each safety device:

Insurer	Airbags		Automatic Belts
	Driver Side	Full Front	
Aetna Casualty	30%	30%	30%
Allstate	20	30	30
AMICA	30	30	30
Continental Casualty	30	30	30
GEICO	30	30	30
Hartford	20	30	30
Liberty Mutual	20	30	30
Nationwide	25	40	10
Prudential	30	30	20
State Farm	20	30	10
Travelers	15	30	30
USAA	60*	60*	30

* plus additional incentives

(continued from page 20)

and transmission. In a frontal collision, the engine and transmission are forced back, tightening the cable and putting tension on the lap and shoulder belts—firmly holding the occupant in place.

In addition to saving lives and preventing injuries, use of lap and shoulder belts may result in a cut in insurance rates, depending upon your insurance carrier. (See chart.)

All About Airbags

A collision usually takes three-tenths of a second from start to finish. Airbags inflate less than 30 milliseconds after a collision starts. This timing of inflating and deflating is critical to occupant protection.

For maximum effectiveness, the airbag must be used with at least a lap belt to keep the driver or passenger in the correct, upright position. As currently designed, airbags protect only drivers and front-seat passengers and only in frontal collisions.

There are two types of airbag systems: Electronic and mechanical. In the electronic system, a collision's severity is identified by sensors and a signal is sent to the control module. The module determines whether the impact qualifies for protection. If so, the module electronically fires the gas generator to inflate the airbag. The timespan for this is ten one-thousandths (10/1,000) of a second.

In the mechanical system, the sensor is in the steering wheel behind the airbag. When the sensor registers a collision, it releases a spring-loaded firing pin which strikes the primer, inflating the airbag.

Under development are combination airbag/seatbelt systems featuring belt tensioning for the driver and front-seat passenger, with an airbag in the steering wheel. As the airbag inflates, signals go to the seat belts, tightening them against both driver and passenger.

By 1990, annual production of airbag-equipped cars is expected to exceed two-million.

Beyond Airbags

A new passive restraint device, claimed to supersede airbags as the safety device of the future, is under study by Chrysler Corp.

The "Safety Seat" fits under a car seat and consists of metal frames, similar to picture frames, connected by folding metal braces. One frame is attached to the bottom of the seat, the other to the floor of the car. In a head-on collision, the braces unfold and move the seat slightly forward and up, in a rotating motion. The motion allows the car to absorb the energy of the crash before the energy can reach the passenger in the seat.

Safety Seat's inventor claims the device is superior to airbags because it is cheaper and it resets itself within milliseconds after an accident, so it can protect passengers in multiple collisions.

In a recent demonstration, a driver slammed a Safety Seat-equipped car head-on into a parked car at speeds of 30 and 50 miles an hour and was not harmed.

In addition to seatbelts and airbags, auto manufacturers have developed both interior and exterior components making vehicles safer to drive.

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The Toyota Fleet Perspective

The most important goal to Toyota is complete customer satisfaction. It's our ongoing commitment to satisfy you every step of the way. With over 1,000 Toyota Dealers nationwide, we are readily available to meet your parts, service and overall fleet needs. But it doesn't end there. With Toyota's new 36-mo./36,000-mile basic new vehicle limited warranty, your fleet's covered all the way from roof liner to lug nuts.* No deductible, no transfer fee, and a 5-yr./unlimited-mileage warranty on corrosion/perforation. For more personalized information, contact the Toyota Regional Fleet Manager nearest you.

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Improved door and body structure provides major protection in side-impact collisions. In a crash, door hinge and latch strength is critical to the door staying closed—and the occupant staying inside the vehicle. Front and rear door structures have been strengthened in recent years to take the brunt of an impact and keep the passenger compartment intact. This assures that the vehicle absorbs as much of the force of the impact as possible.

(A major federal proposal to improve side impact protection for automobile occupants was recently introduced in Washington. Under the proposal, a 3,000 pound barrier would strike a stationary car at midpoint, simulating a side-impact collision. A side-impact dummy inside the struck car would measure the levels of damage to the lower spine, ribs and pelvis. This compares with the present rule requiring each car door to resist crush forces applied by a piston pressing a steel cylinder into a door's exterior during a laboratory test. Car makers generally meet this standard by incorporating a steel beam in side doors.)

Better Bumpers

Bumper strength also plays an important role in vehicle occupant protection. Since 1982, auto manufacturers have equipped cars with "no damage" bumpers to meet federal legislation requiring them to do so. However, manufacturers are now only required to install bumpers that withstand 2.5 miles per hour impacts rather than the original 5 mph standard. Vehicles with 2.5 mph bumpers have shown to have a 60 percent higher collision claim record than 5 mph bumper vehicles. When vehicles are equipped with stronger bumpers, minor impacts result in either no damage (hence no claim) or damage less than the deductible amounts of insurance policies.

Anti-lock braking systems (ABS) improve the ability to stop in shorter distances and help drivers maintain control of their vehicles in emergencies. ABS react to both driver input and road conditions to ensure and maintain proper braking. Sensors at each wheel monitor the wheels' rotation speeds so if one wheel begins to slow down more quickly than the others—indicating impending wheel-lock—a signal is sent to the hydraulic circuit. The circuit will begin pumping the brakes for that wheel to keep it moving and avoid skidding.

ABS are available on 47 models of 1988 cars sold in the U.S. Twenty-six models offer them as standard equipment; 21 as optional equipment.

Interior Features

Special materials and reinforced structures are also part of the interior safety system. Improvements include an energy-absorbing instrument panel and steering system, as well as laceration-resistant windshields.

Unbelted drivers usually strike the steering wheel and dashboard during a collision (which is further evidence why drivers should always use their seatbelts).

An energy-absorbing steering column collapses as a driver hits the steering wheel and dashboard, lessening the possibility of severe injuries.

Safety glass has been a feature on many cars since 1972. The newest development, a four-layer, inner-shield windshield, has an outside layer of glass, a middle layer of plastic energy-absorbent material, an inside layer of glass and an anti-laceration "skin." If this windshield is shattered in a collision, the inner film remains intact, virtually eliminating the chance of occupants suffering cuts from spewn glass.

Prescribed Medication and Driving

Drivers who have been treated with sedatives or other prescription drugs often have serious problems on the road, according to reports made public at the Second International Symposium on Medicinal Drugs and Driving Performance.

One report involved 317 drivers suspected of drunken driving. Blood samples were taken, and the drivers were subjected to a battery of tests designed to measure psychomotor skills such as mental and motor functions, time orientation, ability to count backward and the individual's own overall appraisal of his/her performance.

A normal overall test score is 15; the worst possible score is 148. On the test group, those with evidence of only alcohol in the blood averaged 78; those with evidence of sedatives averaged 91; those with a combination of drugs and alcohol averaged 108.

Authors of the survey warn that while persons may become tolerant of the effects of prescribed sedatives or drugs, the tolerance is not always complete and may be overridden if combined with alcohol.

The report suggested a label warning system be implemented indicating whether the prescribed drug has no effect, little effect or major effect on driving performance.